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10/771,083	02/03/2004	Rudolf J. Hofmeister	15436.171.1	1066

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EXAMINER	
LE, TOAN M	

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 12/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/771,083	HOFMEISTER ET AL.	
	Examiner	Art Unit	
	Toan M. Le	2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16 and 22-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,11-15,28 and 31-40* is/are rejected.

7)☒ Claim(s) *6,10,16,22-27,29 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4-5, 7-9, 11-15, 28, and 31-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Levinson (US Patent No. 5,019,769).

Referring to claim 1, Levinson discloses a transceiver module, comprising:

a laser diode 100 (figure 3);

at least one selectable switch coupled to the laser diode and configured to selectively isolate the laser diode from other circuitry disposed in the transceiver module (col. 4, lines 59-68; figure 3); and

a plurality of extemal test pins coupled to the laser diode wherein the test pins are adapted to be connected to extemal testing equipment (col. 7, lines 55-64; figure 4).

As to claim 2, Levinson discloses a transceiver module, further comprising a laser driver arranged so that the at least one selectable switch is able to selectively couple the laser driver to the laser diode (col. 4, lines 59-68).

Referring to claim 4, Levinson discloses a transceiver module comprising:

a laser diode 100 (figure 3);

a laser driver coupled to the laser diode (col. 4, lines 59-68);

a microprocessor 162 coupled to the laser driver (figure 3);

memory 166 coupled to the microprocessor, the memory comprising a reference operating characteristic of the laser diode (col. 9, lines 15-35); and

wherein the microprocessor is adapted to collect periodic operating characteristics of the laser diode and to compare the periodic operating characteristics of the laser diode to the reference operating characteristics of the laser diode (col. 10, lines 48-68; col. 11, lines 1-11).

As to claim 5, Levinson discloses a transceiver module, wherein the memory comprises an electronically erasable programmable read only memory 166 (figure 3).

Referring to claim 7, Levinson discloses a transceiver module, wherein the reference and periodic operating characteristics of the laser diode comprise current/voltage characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

As to claim 8, Levinson discloses a transceiver module, wherein the reference and periodic operating characteristics of the laser diode comprise current versus optical power characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

Referring to claim 9, Levinson discloses a transceiver module, wherein the microprocessor is further adapted to store the periodic operating characteristics of the laser diode in the memory (col. 9, lines 15-35).

As to claim 11, Levinson discloses a transceiver module comprising:

a laser diode 100 (figure 3);

a laser driver coupled to the laser diode (col. 4, lines 59-68);

a microprocessor 162 coupled to the laser driver (figure 3);

memory 166 coupled to the microprocessor (figure 3) ; and

wherein the microprocessor is adapted to:

collect periodic operating characteristics of the laser diode at various times;

store the collected periodic operating characteristics of the laser diode in the memory; and

compare the periodic operating characteristics of the laser diode collected at at least two different times to detect damage to the laser diode (col. 10, lines 48-68 to col. 11, lines 1-11).

Referring to claim 12, Levinson discloses a transceiver module, wherein the periodic operating characteristics comprise current/voltage characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

As to claim 13, Levinson discloses a transceiver module, wherein the periodic operating characteristics comprise current versus optical power characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

Referring to claim 14, Levinson discloses a transceiver module, wherein the microprocessor is further configured to set a fault flag when damage to the diode is discovered (col. 9, lines 1-14).

As to claim 15, Levinson discloses a transceiver module, further comprising a communications connector adapted to couple to an electronic component, the microprocessor further configured to notify an electronic component connected to the communications connector when damage to the diode is discovered (col. 9, lines 1-14).

Referring to claim 28, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, and the method comprising:

defining reference operating characteristics of the laser diode;

storing the reference operating characteristics of the laser diode;

periodically collecting operating characteristics of the laser diode (col. 9, lines 15-35);

comparing the collected operating characteristics of the laser diode with the reference operating characteristics of the laser diode (col. 10, lines 48-68; col. 11, lines 1-11); and

if damage to the laser diode is discovered, setting a fault flag (col. 9, lines 1-14).

As to claims 31-32, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein the periodically collected operating characteristics of the laser diode comprise current/voltage characteristics and curent versus optical power characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

Referring to claim 33, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein the periodically collected operating characteristics of the laser diode are collected when a forward bias voltage is applied to the laser diode (col. 4, lines 56-68).

As to claim 34, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein the periodically collected operating characteristics of the laser diode comprise at least one of: cut-in voltage; and, forward threshold voltage (col. 11, lines 59-66).

Referring to claim 35, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an

optical transceiver module that includes a laser diode, wherein the periodically collected operating characteristics of the laser diode are collected when a reverse bias voltage is applied to the laser diode (col. 9, lines 15-35; figure 7).

As to claim 36, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein the periodically collected operating characteristics of the laser diode comprise at least one of: beakdown voltage; reverse bias knee; and, reverse threshold voltage (figure 7).

Referring to claim 37, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein periodically collecting operating characteristics of the laser diode comprises:

varying a voltage across the laser diode; and

measuring a current through the laser diode (col. 1, lines 36-44; col. 9, lines 15-35).

As to claim 38, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein at least a portion of the method is performed in response to the occurence of a predefined event (col. 10, lines 48-66).

Referring to claim 39, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, further comprising performing a polling routine in response to a setting of the fault flag (col. 9, lines 1-14).

As to claim 40, Levinson discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein after a calibration of a laser driver associated with the laser diode is performed, current/voltage characteristics of the laser diode are measured by sweeping each section of an I-V curve while controlling the DC bias on the laser diode (col. 10, lines 48-56).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Levinson as applied to claim 1 above, and further in view of Roberts et al. (US Patent No. 6,802,654).

Referring to claim 3, Levinson discloses a transceiver module, comprising:

a laser diode 100 (figure 3);

at least one selectable switch coupled to the laser diode and configured to selectively isolate the laser diode from other circuitry disposed in the transceiver module (col. 4, lines 59-68; figure 3); and

a plurality of extemal test pins coupled to the laser diode wherein the test pins are adapted to be connected to extemal testing equipment (col. 7, lines 55-64; figure 4).

Levinson does not mention the external test pins are pogo style pins.

Roberts et al. disclose a transceiver module, wherein the external test pins are pogo style pins (col. 4, lines 62-67 to col. 5, lines 1-3; col. 5, lines 33-52).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied the external test pins of pogo style as described in the Roberts et al. reference into the reference of levinson to provide a spring loaded probe surface for depressing of spring loaded pogo pin to force the opposing end to extend distally thus completing the circuit to the test leads for activating the oxide laser diode.

Allowable Subject Matter

Claims 6, 10, 16, 22-27, and 29-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for allowance of the claims 6/29 and 10/16/30 is the inclusion of the reference operating characteristics of the laser diode are stored as quadratic spline coefficients and the periodic operating characteristics of the laser diode are stored as cubic spline coefficients.

The reason for allowance of the claims 22-25 is the inclusion of a pair of switches arranged to selectively couple both the laser driver and the microprocessor to the laser diode and the first/second external test pins coupled to respective first/second sides of the laser diode, the first/second external test pins arranged so as to be in communication with the laser diode regardless of whether the switches ate open or close, wherein when both switches are open, both the laser driver and the microprocessor are uncoupled from the laser diode, and wherein the laser diode and the laser driver are arranged such that the laser driver can bias the laser diode through

two alternate paths wherein one of the paths includes a pair of switches arranged to enable selective coupling of the laser driver to the laser diode.

The reason for allowance of the claims 26-27 is the inclusion of an oxide laser and a vertical cavity surface emitting laser (VCSEL).

Response to Arguments

Applicant's arguments with respect to claims 1-16 and 22-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan M. Le whose telephone number is (571) 272-2276. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toan Le

December 23, 2005

John Barlow
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